**Title:**

Data presented in de Smit et al. 2024, ‘Storm resilience of subtidal soft-bottom mussel beds: mechanistic insights, threshold quantification and management implications’ in the *Journal of Applied Ecology*.

**Creators:**

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**Abstract:**

In this study, centered on subtidal soft-bottom mussel beds, our aims are: *i*) to develop an effective methodology for continuously monitoring their dislodgement dynamics in-situ under (storm) waves; *ii*) to seek integrated experimental evidence for understanding the variability in their resistance and recovery under storm impacts and the associated driving mechanisms. *Firstly*, utilizing a novel method (i.e., Mussel Clump Accelerometer), we conducted continuous monitoring of mussel clump dislodgement throughout the storm season in a representative subtidal soft-bottom mussel habitat (i.e., the Dutch Wadden Sea) to quantify the associated dislodgement threshold. *Secondly*, employing a wave-generating flume, we investigated to what extent mussel clump dislodgement depends on recent life history and storm exposure duration. *Thirdly*, using wave-mimicked mesocosms, we conducted disturbance-recovery experiments to examine the effect of storm frequency on mussel bed recovery after dislodgement. *Finally*, we discussed the implications of our findings for advancing mussel bed resilience studies, as well as their relevance to mussel bed conservation and management.

These files include the data used to create each figure in the manuscript, organized as follows:

1. Field monitoring

a) Accelerometer

b) Pressure sensor

2. Flume study

a) Dislodgement test

b) Long exposure experiment

For a complete description, see “Data description.docx”